

The Use and Abuse of Sulfonamide Drugs

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The bactericidal property of the sulfonamide containing dyes was suspected in 1919, but no real clinical work was undertaken till 1935-36 in England although it was apparently under way in Germany from about 1933.

The search for more effective sulfonamides has been continuous and many advances have been made, particularly in producing compounds which are less toxic to the human organism. As each new product has been developed it has been found to be more beneficial in some types of infections than in others, and possessing some advantages and equally some disadvantages over its predecessors.

Certain facts have been learned about the various members of the sulfonamide group of drugs now in general use, their efficacy and their failures, their tendency to produce allergic symptoms and toxic manifestations as well as certain general indications for their use, and caution to be observed.

It is the purpose of this communication to call attention to the salient features in the use and abuse of these sulfonamides.

With minor exceptions the dosage of the sulfas and their method of administration agree.

The greatest use lies in the treatment of **acute** infectious processes—due to the usual pathognomonic organisms—pneumococcus, streptococcus, staphylococcus, meningococcus and gonococcus, and probably one should include some bacillary infections—like *Bac. dysentery*.

A brief description of the uses of the more common sulfonamides is in order.

Sulfanilamide is probably still as potent as any of its successors in the treatment of Hemolytic Streptococcus infections. It is also useful in Gonorrhoea, pneumonia, and meningococcal meningitis. Prophylactically it is of value in the treatment of burns, flesh wounds in war, and some surgeons use a dusting powder in operations which are not aseptic. Adequate dosage must be given. It is diffused readily through the tissues; a fairly high blood level (15-20 mg.) can be tolerated, and while it may be toxic, kidney complications are not frequent.

Sulfapyridine (M. and B. 693) (Dagenan) was found to be more effective in pneumonia and a lower blood level (4-6 mg.) will accomplish the therapeutic result. Kidney complications are more likely, especially if the urine is acid or the urinary output falls to a low level. Toxic reactions, particularly nausea and vomiting, occur rather frequently.

Sulfathiazole proved to be just as effective in pneumonia, and is of value in staphylococcal infections and gonorrhoea, and also possesses therapeutic properties in colon bacillus infections of the genito-urinary tract. It has been found to penetrate poorly into the spinal fluid and so has not been very effective in the treatment of meningitis. Renal complications as a result of crystalluria are not infrequent. Blood levels of 3-5 mg. are adequate.

Sulfadiazine—One of the newer compounds, is more easily tolerated by the stomach and in general is probably less toxic. It is absorbed well from the gastro-intestinal tract and passes readily into all body fluids including the spinal fluid. It is effective in pneumonia, gonococcal and streptococcal and meningococcal infections. Theoretically at least it

can be given in doses which are farther apart. Febrile reactions are not common but do occur. It is excreted slowly by the kidneys. A blood level of 4-5 mg. is usually satisfactory.

Sulfaguanidine is not absorbed readily from the gastro-intestinal tract and is of little use in systemic infections. It is, however, of value in the treatment of bowel infections and has been used with advantage in the treatment of bacillary dysentery, typhoid fever, and with occasional success in non-specific ulcerative colitis. It has been valuable also in preparing patients for surgery of the bowel. The blood level should not exceed 2 mg. and the treatment should be continued till diarrhoea stops or the intestinal bacterial count has fallen satisfactorily.

Sulfasuxidine possesses the same properties as sulfaguanidine and its toxicity is almost negligible. It is excreted very poorly in the urine.

Sulfathalidine is the newest form to be used as an intestinal antiseptic and is said to be much more effective than its predecessors.

Sulfamerazine is one of the latest compounds to be studied experimentally. Its solubility in water is much greater than that of sulfadiazine. However the work done up to the end of 1943 has apparently not established its proper sphere of clinical usefulness.

The dosage of the sulfonamides is fairly well standardized. Most clinicians use the drug orally if possible, but at the onset of treatment, if the patient is vomiting or comatose, as he may be in meningitis, the initial therapy may be given by intravenous or subcutaneous methods, which are superseded as soon as possible by the oral route.

Dosage

It is our practice in using the drug to give 2 grams at once and repeat in 2 hours. From then on the drug is given in 1 gram (15 gr.) doses every 4 hours, day and night, till the temperature drops and the patient clinically improves. If this dosage is tolerated it should be continued for 5-6 days until 25 grams have been given or signs of intolerance are manifest—skin rash, secondary rise in temperature, hematuria, leukopenia, etc. If no improvement is evident after 3 days it is probable that the treatment will be ineffective. It seems wise to taper off the drug rather than stop abruptly. This is best done by reducing the amount at each dose instead of lengthening the interval between doses. It has been shown many times that the four-hourly administration keeps the blood sulfonamide level fairly constant, which is apparently more important than the level itself. The sulfonamide should be continued till the patient is clinically well but no more of the drug should be used than necessary. With each dose of the drug soda bicarb. is given in equal amount. Fluid intake of 2500-3000 cc. is maintained.

Definite Indications for the Use of the Sulfonamides Pneumonia

To most physicians the sulfonamides suggest primarily the treatment of pneumonia. We are all personally familiar with the marked reduction in the fatalities as a result of this disease, in contrast with the situation a few years ago—an average mortality now of 5-6 percent; instead of 25 percent. or more before the widespread use of these drugs.

Meningococcal Meningitis

From the standpoint of military practice a few words should be said regarding the use of the sulfonamides in meningococcal meningitis, the epidemic form of meningococcal infection which has always in war time, been an extremely serious menace in army personnel and civilian population alike. A very excellent article by C. P. Jones in the Medical Society of Virginia, June, 1943, contains some heartening facts. He points out that in pre-serum days the mortality from this disease was as follows: U.S. 80%; France 75%; England 70%, and Germany 60%. With the advent of serum and earlier diagnosis the mortality was gradually reduced to about 33%. With the use of sulfonamides the picture has changed dramatically. Banks in 1941 reported 96 cases with only 2 deaths. Forty-four of these cases were treated with sulfathiazole alone, the remainder with sulfapyridine. From Baltimore, Hodes and Strong reported 110 cases treated between 1938 and 1942, with a mortality of 11%. There were only 2 deaths in 59 children under 15 years of age. A breakdown of their cases is interesting: 57 treated with sulfanilamide had a mortality rate of 17.5%; 7 with sulfapyridine .0 deaths; 36 with sulfathiazole 5.5% deaths; and in 10 cases treated with sulfadiazine none died.

Recently Dwight and Thomas reported on an epidemic in Nova Scotia, during which 82 patients were treated with sulfapyridine and the mortality was only 8.5%.

Campbell collected a series of 2747 cases reported in the literature from 1937 to 1941, with the following results:

	Cases	Fatality
Sulfadiazine (alone)	13	7.6%
Sulfathiazole (alone)	70	4.6%
Sulfapyridine (alone)	588	3.9%
Sulfanilamide and Sulfapyridine	214	7.9%
Sulfanilamide (alone)	588	11.2%
Serum and Sulfanilamide	165	12.1%
Serum (alone)	1109	31.4%

Jones has outlined some of the important points in treatment. He recommends the early start of chemotherapy, the choice of sulfapyridine or sulfadiazine, and that the initial doses of the drug be given intravenously on the basis of 0.1 gm. per kilo of body weight. He emphasizes also the importance of correcting dehydration by the use of 5% dextrose solution, maintaining the blood sulfonamide level at 10-15 mg. and continuing the drug for 2-5 days after recovery.

Another excellent report from Lt. Commander Van Orden appeared in the July, 1943, issue of U.S. Naval Bulletin, outlining the treatment of 39 cases of whom 38 recovered. Sulfadiazine was used. The plan of treatment outlined was an initial dose of 5 gms., a 2 gm. dose in four hours and then 1 gm. every four hours till a fall in temperature and definite improvement occurred, usually in 3 or 4 days. Then 1 gm. was given every 6 hours for 10 days. Only rarely, in patients who were vomiting or comatose, were the initial 2 doses given in the form of the sodium salt. In 12 of these patients hematuria occurred, and in 3 of them it was gross, so the drug was discontinued. In the other 9 therapy was carried on. There were no serious sequelae and practically all of the patients were discharged to full duty.

Gonorrhoea

The value of the sulfonamides in the treatment of this condition is universally recognized. H. V. Williams reports in the Lancet (January, 1943) a series of 1000 cases of gonorrhoea successfully treated with sulfapyridine. Four grams of the drug were given daily for 10 days, followed by a similar course after a rest of 10 days. Seven percent. of the patients developed skin rashes between the 6th and 10th day. Lymph gland enlargement and splenomegaly

occurred in a few cases. This author concludes that the appearance of adenopathy gives early warning of intolerance to the drug.

Drug Reactions

These are fairly frequent. The more common ones are nausea and vomiting, drug fever, various skin eruptions which may be scarlatiniform, maculo papular, follicular, bullous, or resembling erythema nodosum; or at times an angio-neurotic edema. Blood dyscrasias may occur, with secondary anaemia, leukopenia or thrombocytopenic purpura. Kidney complications with hematuria or crystalluria and even renal calculus are not infrequent. Untoward reactions as the above usually subside with the discontinuance of the drug, but occasionally the kidneys demand intervention by the urologist. (Major Swartz of M.D. 10 has recently reported the treatment of such cases.)

An interesting study on the frequency of various toxic reactions was reported in the J.A.M.A. of April, 1943, by Bowling and Pepper. In the use of sulfapyridine (508 patients) reactions occurred in 29.8%, sulfathiazole (321 patients) 11.8%, and sulfadiazine (609 patients) only 7.7%—figures which speak for themselves.

The prevention of drug reactions has been receiving a great deal of attention. From the foregoing report it would appear that the choice of drug is extremely important. Other suggestions, repeated many times in the literature, are (1) maintain an adequate fluid intake, 2500-3000 cc. daily to insure a urinary output of at least 1000 cc. daily. Keeping the urine alkaline is important. If these factors are kept in mind the danger of kidney complications is greatly minimized.

(2) The indiscriminate use of the sulfonamides in minor infections is greatly deprecated. This is particularly true of the use of the drugs in acute colds or in nasal sprays, or ointments where other simple medications would suffice. Some official regulation of their use, as in the case of thyroid extract, sedatives and narcotics, would be of advantage in controlling this widespread but unwise practice. It is thought that many people are thus sensitized to the drugs, so that when they are seriously ill and sulfonamide therapy is instituted, they are extremely likely to develop some type of unfavorable reaction.

(3) The use of sulfonamide powder in clean wounds is a practice which is also frowned upon by most clinicians.

(4) The drug should be used with care in elderly patients, and particularly in those who are known to have kidney or liver damage.

(5) It should be used very carefully in people who give a history of allergic reactions to drugs in general, and particularly if there has been reaction to a previous course of sulfonamide.

(6) When the drug is being used the urine and blood should be examined frequently and at the first sign of skin eruption or anaemia the drug should be stopped or reduced. If the illness is serious enough to demand the continuance of the drug, it must be used with more than ordinary caution.

(7) There is, in the opinion of most clinicians, no justification for the use of the drug as a prophylactic for gonorrhoea.

In general, it may be stated that even though a leukopenia exists, this does not constitute a contra-indication to the use of the drug. However, the result of treatment is usually not as satisfactory as in those illnesses which are associated with pronounced leucocytosis.

Further, if there is doubt about the wisdom of using sulfonamides in any particular illness a course of treatment should be instituted and continued for two or three days in order to assess its therapeutic possibilities. No serious harm will result and dramatic improvement may occur.

The Early Diagnosis and Treatment of Toxemia of Pregnancy.

"Seek and Ye Shall Find"

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So much has been said about the toxemias of pregnancy that one hesitates to discuss the subject without anything new to offer. However, at the risk of being considered just one of the many, I want to discuss the subject from a new angle and to put a new emphasis on facts we already know.

I wish to discuss the true toxæmia of pregnancy from the standpoint of office practice. I do not wish to include the patient with pre-existing pathology such as nephritis or hypertension (or low reserve kidney); in other words, I wish to discuss toxæmia arising solely from pregnancy—according to the classification of the American Maternal Welfare Committee, as pre-eclampsia, mild, severe and eclampsia.

The facts presented here are those on which I have based my diagnosis and treatment (of early toxæmia) during the last 17 years during which time I have not had a private patient develop eclampsia. The same approach saw 5000 go through the pre-natal clinic of the Winnipeg General Hospital before any patient developed convulsions. This case was a misfit of team work and never should have reached the convulsion stage as the "hand writing was on the wall" weeks before convulsions set in. This was ten years ago, since that date there has been no further cases of eclampsia in regular attendants. It is my firm conviction that acute eclampsia or the fulminating type is very rare, it certainly is on the prairies. I have seen many cases of eclampsia in consultation, and have yet to see one that was thoroughly supervised that did not have the early signs of toxæmia weeks before convulsions set in. We are inclined to consider the woman who comes in off the street in convulsions as an acute case. I consider this an unfair assumption unless we know that the day before the seizure she was normal.

I consider that pure toxæmia passes through an incipient stage which can be recognized early if the patient is examined **frequently enough** for early signs of toxæmia. A Minimum for a normal woman should be once a month to the seventh month, and every two weeks thereafter. A suspected toxæmia should be seen once a week or oftener.

I would like to make this point—**there is no early symptom of toxæmia**—if the patient has symptoms the condition is far advanced and beyond the incipient stage.

All the early manifestations of toxæmia are signs, not symptoms, and can be detected only by the systematic routine examination of the patient. There are three early signs of toxæmia, the presence of any two spells toxæmia. **The first and most important sign is an abnormal gain in weight.** Let us therefore consider the normal gain. From 1000 cases the following is deducted:

1 to 3 months	no gain
4th month	3 lbs.
5th month	3 lbs.
6th month	5 lbs.
7th month	5 lbs.
8th month	4 lbs.
9th month	4 lbs.

There may be even a loss of weight in the first three months, and usually a loss in the last two weeks in the normal female. The normal gain due to pregnancy is roughly twice that of the foetus; if the foetus weighs $7\frac{1}{2}$ lbs., then the placenta, liquor amnii, increase in uterus etc., is roughly $7\frac{1}{2}$ or equal to that of the foetus. The remaining gain in weight is maternal and should not exceed 10 lbs. Any abnormal gain

over and above the figures given should be considered of toxic origin until proven otherwise. I do not consider that every gain in weight is toxic, but I do say it should be considered toxic until proven otherwise. We are all familiar with the appetite of some pregnant women which knows no bounds and does not develop into toxæmia.

This gain in weight may be and often is a manifestation of hidden peripheral or central oedema, the constant fore-runner of pre-eclampsia and eclampsia. It is at this stage that the patient should be instructed in the seriousness of toxæmia and the role that overweight plays in its production. It is often difficult to make her realize the seriousness of this condition because she feels fine and has no symptoms. A strict dietary regime should be laid down.

First Case

Mrs. E. admitted to hospital on June 22nd, at 11:10 a.m. Patient appeared to be about a full term pregnancy, and her tissues were markedly edematous. There was a history of two or more convulsive seizures on the previous day, and just after admission to hospital she had a convulsion which lasted several minutes.

Patient was married two years ago at the age of 18 years. She had always been in good health, and had never had any previous illnesses of any account. Last normal period of menstruation was in the latter part of September, the exact date was not elicited. The patient says the pregnancy went along uneventfully until about two months ago, when she began to notice marked swelling of her legs and feet. All this time she consulted a physician, who advised her to eat no meat, and **to drink plenty of milk.** He also prescribed some medicine for her. She went to this physician twice, with no further treatment. The oedema continued to increase, and she knew that she was getting heavier, but gave no history of any symptoms at that time. Late in the evening of June 21st, patient first had headache and dizziness. There was some nausea, but no vomiting. From this time on the patient cannot give any account of her actions. She became very restless and had one or more convulsions on the way into Winnipeg. The Patient's normal weight before pregnancy was around 115 pounds. Patient was weighed about two weeks before admission to hospital, and weighed at that time, 153 pounds. There had been absolutely no restriction of fluids throughout her pregnancy, and she admitted to drinking large amounts of water, and had eaten a great quantity of watermelon, the seeds of which were found in her liquid bowel movement later.

Her intake and output of fluids for the first four days in hospital were:

	Intake	Output
1st 24 hours	75 ccs.	700 ccs.
2nd 24 hours	590 ccs.	4560 ccs.—152 ozs.
3rd 24 hours	460 ccs.	4640 ccs.—154 ozs.
Delivered:		
4th 24 hours	721 ccs.	4900 ccs.—163½ ozs.
	1646 ccs.	14800 ccs. 493 oz.—12½ Qts.

Baby born alive, weighed 5 lbs. 10 ozs. On discharge the mother weighed 108 pounds and was well.

Second Case

Mrs. M. (a nurse) Seen in consultation after a convulsion. She had been in bed at home and on the

day before admission, at which time she became worse, she had taken two quarts of milk and 96 ozs. water, and her output during this time was 20 ounces. She said that she drank until she couldn't drink any more, "to flush out her kidneys" and as a reward she had a convulsion:

	Intake	Output
1st 24 hours	250 ccs.	2675 ccs.
2nd 24 hours	255 ccs.	1235 ccs.
3rd 24 hours	130 ccs.	2020 ccs.
4th 24 hours	400 ccs.	1390 ccs.
	1035 ccs.	7320 ccs.—244 oz.—61/10 Qts.

No more convulsions.

Her gain in weight was unknown but she thought about 45 lbs.

The second sign of importance is an elevation of blood pressure. The importance of the recording of the blood pressure to establish what is normal for this patient early in pregnancy is paramount. One frequently finds an elevated blood pressure on a first visit of a primipara or a highly strung patient. Blood pressure readings should be repeated until an average pressure is established. Suppose the blood pressure is established at 120/80. If at any subsequent visit an elevation of blood pressure is recorded, particularly if associated with an abnormal gain in weight, it should be considered a manifestation of toxæmia. I consider a gain of 10-15 mm. of hg. as a toxic sign. If we wait till the blood pressure is 160/100 we have waited too long and lost much valuable time in the control of this condition.

The third sign is that of albumiuria. Twenty years ago it was considered the first sign, the importance of blood pressure then came to the fore and now it is, in my opinion, second to an abnormal gain in weight.

Every woman that has albumen is not toxic in the ordinary sense, we are all familiar with the trace that appears in the last few weeks of pregnancy even in so-called normal pregnancy. If the albumen is present in conjunction with increase in weight and elevated blood pressure, this woman is toxic and calls for immediate treatment.

These three manifestations of toxæmia of pregnancy are all **signs**. They can only be elicited by routine thorough examination, and the presence of each or all calls for immediate action.

Treatment

1. Of first importance is the complete co-operation of the patient. This can best be obtained by a thorough explanation of the seriousness of toxæmia of pregnancy, and the necessity of a complete and mutual understanding of the responsibility of each. This is more important than it might at first seem, as the patient usually has no symptoms, and is liable to treat the whole thing lightly, until the more serious symptoms appear.

2. Fluid balance should be taken for twenty-four hours and the intake limited to the amount of the output. This should be repeated at frequent intervals. All free chlorides should be eliminated and if the desired result is not obtained a salt free diet should be prescribed. This is essential as so many of our prepared foods are highly seasoned and have a high salt content.

3. Elimination should be increased by bowel, skin, kidney and lungs. At least two or three stools (loose) should be passed daily, magnesium sulphate (saturated solution) ozs. 2 in A.M., repeated if the desired result is not obtained produces the best results. A daily warm bath is useful to keep the skin active.

4. Frequent readings of weight, blood pressure and urinalyses should be made.

5. If in spite of this regime the signs of toxæmia increase the patient should be hospitalized and be given full eliminative treatment under rigid supervision. If in spite of this the condition is progressive the termination of pregnancy should be seriously considered.

Summary

1. Almost without exception the true Toxæmia of pregnancy passes through an incipient stage.

2. There are no early symptoms of toxæmia.

3. The early signs of toxæmia are in order of their importance:

- (1) An abnormal gain in weight.
- (2) Increased blood pressure.
- (3) Albuminuria.

4. These can only be elicited by routine examination.

Canadian Orthopaedic Unit in Scotland

A. Gibson, F.R.C.S., (Eng.)

Very little publicity has been given to the work of the Canadian Orthopaedic Unit in Scotland. Indeed it is pretty safe to say that comparatively few of the medical men of this province know of its existence. For more than two years it has been at work and has earned for itself a high place in the esteem of the Department of Health for Scotland. More than that, its work is known all over Great Britain, and it stands alongside similar groups as a representative of Canadian standards in Orthopaedic Surgery.

Ever since the beginning of the war, it was realized that any part of the country might be subjected to bombardment from the air. What the result of this would be in casualties it was not possible to estimate, but it was assumed that the number would be formidable. Injuries would be sustained not only by combatants but probably more numerous and at least as severely by non-combatants. To provide adequate care for the potential casualties the number of hospital beds available was insufficient. Fortunately so far as Scotland was concerned, a systematic survey of the Hospital bed situation had been completed before the war, and it was known that there were roughly 35,000 beds, grouped in four main localities, corresponding in the main with the four Scottish Universities. Within a very short

time of the outbreak of war by taking over hotels, large private houses and Institutions and by building huts of the standard Army pattern, the number of beds available was raised to about 65,000. Along with the provision of beds, came the provision of medical care. Nurses and V.A.D's. were recruited in large numbers, and the staffing of the hospitals thus made sufficient. Finally, the problem of surgical care had to be faced. In accordance with a trend becoming more pronounced of recent years in Great Britain, following the U.S.A. where the distinction is already well established, men with special training in Orthopaedic Surgery were given preferred positions in these new Hospitals.

An appeal was made by the Scottish Department of Health to the Canadian Red Cross to raise an Orthopaedic Unit for service in Scotland. The cost of maintenance of the Unit was to be and is borne by the Department of Health, but the selection of medical officers and nurses and the selection of equipment was to be done through the Canadian Red Cross. The Headquarters of the Canadian Red Cross being in Toronto, it followed that the personnel of the Unit was mainly of Toronto training. The surgical staff consists of six Junior Surgeons, one of whom is also anaesthetist, and one Senior Surgeon

in charge of the Unit. The Nursing Staff consists of twenty-one nurses and a Matron. The nurses come from various provinces of the Dominion, the matron, trained in Toronto, came to the Unit from Port Arthur. Considerable difficulties had to be surmounted before the organisation was complete and it was not until the end of December 1941 that the Unit stepped ashore on British soil. It was assigned to Hairmyres Hospital, East Kilbride, Lanarkshire, where it still carries on. From the time of landing until the present, five surgeons have acted as Senior Officer in Charge, two from Toronto, one from Ottawa, one from Winnipeg, and the present incumbent of the post, who comes from Edmonton. The Junior surgical staff has remained relatively unchanged. The Nursing staff is virtually the same as went over.

Hairmyres Hospital is situated about 10 miles south of Glasgow. Before the war it was a Tuberculosis Colony of some 250 beds, raising all of its own vegetables as well as prize Ayrshire cattle. As far as labour conditions in wartime permit, the latter extra-medical activities are still carried on ensuring for the Hospital an ample supply of fresh vegetables and wholesome milk. As may be inferred, the supply of Scotch Broth was unrated. In 1938, a "Treatment Block" was built embodying all that is modern in Hospital construction. Now that another 750 beds have been added to the original 250 the resources of the treatment block are used to rather more than capacity. The Canadian Orthopaedic Unit has charge of about 400 beds; there are also general medical and surgical wards and a very efficient Chest Unit presided over by one of the leading British Thoracic Surgeons. We always received a cordial welcome here, and were privileged to see many interesting cases and operative procedures. Students from the University of Glasgow were attached to the Hospital for clinical instruction for some weeks and it was interesting to compare reactions with those obtained from Winnipeg students.

Two cardinal features of the work claimed my attention and admiration. The first was the co-operation of the Military and the Civil Authorities. Possibly it was the urgency of the situation that brought about the fusion in action as well as in aim of the two great powers, but it was superbly simple in its working. By a decision based on simple common sense the ripe experience and technical skill of civilian surgeons was made available to the man in uniform. By far the majority of our patients were from North Africa or Sicily, but there were also Air Force cases, Royal Navy, Merchant Navy, Italian prisoners of war, W.R.N.S., A.T.S., W.R.A.F., as well as Ministry of Pension cases and civilians including even children. The Military requirements were not very exacting. Board papers had to be prepared once a week and the Junior surgeons had to take their turn serving as members of the Boards which were presided over by a Lt.-Colonel R.A.M.C. We saw each afternoon as out-patients many soldiers from neighbouring units referred for an opinion or for treatment by their regimental Medical Officer. If patients were admitted for operation, an invitation was extended to the M.O. to come and see what was done, an invitation which was frequently accepted.

(Incidentally it may be mentioned that at a dinner of the British Orthopaedic Association in London, I heard Gen. Hawley, in charge of the U.S.M.C. in Great Britain voice exactly the same sentiment.) This point need not be stressed or elaborated, but the application to conditions in Canada is obvious.

The second cardinal feature was twofold. The view was accepted that the main part of a patient's recovery is accomplished by himself. Very largely, he makes himself well. Besides this the contention was admitted that "Medical Care" includes responsibility for the patient until he is able to resume

his former occupation or, if permanently disabled, is fitted into a new environment where he may pull his weight in the industrial boat, earn a living and retain his self-respect. It is this viewpoint that has had so much publicity under the heading of Rehabilitation. This may seem to be a simple extension of the present medical service but it is much more than that. It is little short of revolutionary. From the point of view of the patient's welfare there is little room for argument, but the financial, economic, and psychological implications are exceedingly complex, and involve responsibilities not to be assumed without studious deliberation.

At our Hospital there were excellent facilities for most grades of Rehabilitation. The simplest is Physio-Therapy, including massage, ultra-violet light diathermy, etc. No patient passes through this Department without having appropriate exercises. Indeed Exercise is the key word of Rehabilitation.

A second phase of Rehabilitation is Occupational Therapy. At present Occupational Therapy is rather the vogue, and the Toronto School enjoys high prestige among those who are its devotees. Occupational Therapy concerns itself mainly with Handicrafts such as weaving, leather-work, plaiting of strings, a little pottery, some painting, rug-making, etc. Whenever the occupation verges on the useful, it becomes Vocational Training. Such activities as basket-making, or carpentry were available, but never so popular. As a diversional activity, occupational therapy has a great deal to recommend it; from the remedial point of view it is chiefly window-dressing.

The third phase of Rehabilitation is active, strenuous exercise. At Hairmyres we had a drill-sergeant for Army patients and a Corporal for the R.A.F., as well as two thoroughly trained girls for the civilian patients. Ideally every patient even when confined to bed does five minutes of exercise in every hour, and if one is inspecting another hospital it is always possible to see this being done. Actually it is apt to be a rule more honoured in the breach than the observance. The Service instructors have two gymnasiums in which supervised exercises are carried out all day and every day. There is a small amount of apparatus chiefly of the weight and pulley type. Work about the Hospital grounds is excellent exercise. Not as much of this was done about Hairmyres as one could wish. The winter season was an excellent excuse if a poor reason.

To see Rehabilitation carried to the limit, I visited the Army Restoration Centre at Glencorse. There, after four weeks of hard work, the trainees marched 15 miles with a 60 lb. pack and then completed an assault course. At Loughborough, near Leicester, I saw the method of Rehabilitation employed by the R.A.F. This does not call for such exacting requirements as does Infantry training; games and co-ordination play a major part. When transferring ones ideas on this matter to a civilian setting as in Manitoba, one great difficulty emerges. In the Forces a man has to do exactly as he is told; in civil life he will do it if he wants to. Even granting this disadvantage, the need for systematic and supervised exercise in the reclamation of the disabled and unfit in this province is crying aloud for recognition.

Another very interesting experience was coupled with a visit I paid to London at the invitation of the Ministry of Labour. Here I saw a Demonstration-Exhibition of work being done by men handicapped by blindness, the loss of one or more limbs, etc. It was immediately obvious that Industry, (with capital "I") had co-operated whole-heartedly to bring about the employment of these men. In numerous instances the action of complicated machines was split into two or three simpler processes any one of which could be performed by the disabled man although operation of the fully developed machine was beyond his capacity. The thought immediately strikes one,

How far is Big Business, with its idolatry of dividends prepared to go, after the war, in supporting an arrangement which calls for three blind men earning a living when their work could be accomplished by one normal craftsman?

In this short review, I have skimmed over one or two of the highlights of my stay in Great Britain. From a personal point of view the visit paid rich

returns; the patients were the finest material one could have to work with, the conditions of work were pleasant and largely under one's control; the loyalty and friendship of the surgical and the nursing staff, Scottish as well as Canadian will be to me a life-long treasure; and the opportunity to see Medical Care in action at a stage of evolution well beyond anything we have in this country was something I hold beyond price.

Personal Notes and Social News

Dr. and Mrs. Edward D. Hudson's daughter, Catherine May, was married to William Alexander Morrice, only son of Mr. and Mrs. J. Morrice of Hamiota, on July 12th, at Hamiota United Church.

Surgeon-Lieutenant and Mrs. R. W. MacNeill are happy to announce the birth of a daughter (Martha Lyle) at the Winnipeg General Hospital on July 4th, 1944.

Surg. Lieut. John Ervine Mitchell, R.C.N.V.R., eldest son of Dr. and Mrs. H. W. Mitchell, was married on July 29th, 1944, to Anne, only daughter of Mr. and Mrs. Alexander Thompson.

Lieut.-Colonel C. H. A. Walton, R.C.A.M.C., No. 5 Canadian General Hospital, has returned to Winnipeg after serving four and a half years overseas.

Dr. and Mrs. Leon A. Pauls (nee Ruth Torgan) are receiving congratulations on the birth of a daughter on July 13th, 1944; a sister to Brian (Jacqueline).

Surgeon-Lieutenant James Gordon Fyfe has been listed as a prisoner of war from the Canadian destroyer Athabasca as reported by the International Red Cross.

Dr. and Mrs. K. R. Trueman are celebrating the arrival of twin boys (Donald Keith and David Lawrence) on June 30th, 1944, at the Winnipeg General Hospital.

Col. Percy G. Bell has returned to Winnipeg after three months' absence overseas.

Dr. Edward Vernon Helem, R.C.A.M.C., son of Mr. and Mrs. Thomas Helem, Medora, Man., was married on July 1st, at Toronto, to Margaret Elizabeth, daughter of Mrs. Marcel McRea, of Toronto, Ont.

Dr. and Mrs. A. L. Paine of Ninette, Man., are happy to announce the birth of a daughter (Martha Ruth), on July 15th, 1944, at the Winnipeg General Hospital.

Dr. James H. Wieb, R.C.M.C., son of Mr. and Mrs. H. N. Wieb of Winnipeg, was married to Ethel Mildred, youngest daughter of Mrs. Ada E. Hyndman and the late George Hyndman of Gladstone, Man., on July 17th, 1944, at St. Stephen's-Broadway Church, Winnipeg.

Capt. J. Robert Campbell, M.C., A.U.S., divisional psychiatrist of the 3rd Infantry division of the 5th American army, son of Dr. A. M. Campbell of Winnipeg, was married to 1st Lieut. Maribell Blossfeld, A.N.C., A.U.S., daughter of Mr. and Mrs. Henry C. Blossfeld of Spragueville, Iowa, in Rome, Italy, June 18th, 1944.

Dr. and Mrs. F. K. Purdy of Griswold, Man., celebrated their 26th wedding anniversary on July 16th, 1944.

Dr. John Alexander McNeill (U. of M. "44," L.M.C.C.), is now on the staff of the St. Boniface Hospital.

Dr. F. Sedziak, recently of Vancouver, has now taken up practice at Elm Creek, Man.

Dr. A. E. Thorlakson (wife of Dr. R. W. B. Wengel), wishes in the future to be known as Dr. A. E. Wengel.

Dr. James Harold MacDonald (U. of T. "35," L.M.C.C.), is now attached to the staff of the Cordite Plant at Transcona.

Golfing—Minus Putter

When one is fortunate to witness some bang-up, shot-making golf, we believe the highlights should be chronicled. On certain sections of our course, two greens of the last nine holes, border on the fairways of the first nine. It was here that our four-somes were spectators to golf in its most superb form.

It was the female of a two-some who made our four-some green with envy. At approximately fifty yards out from the green, a pitch shot come gracefully through the air, dropped six feet from the pin and rolled into the cup. "Nice going," said one of the gang; D-lucky," said another, etc.

Later, when we were playing the seventh, our two unknown friends were approaching the fourteenth, so we stopped and watched with some scepticism but were treated to another show of supreme golfing proficiency by the lady before mentioned.

At what we all agreed was at least seventy yards out, she scanned the green, carefully addressed the ball with a form (golfing) few acquire, and made a perfect shot. Up went the ball, straight and true to the green and into the cup for a birdie three. "Who the'll is she," asked one of the boys; "Patsy Berg, maybe;" "about her size too;" "some humdinger, from the South most likely."

Finishing the first nine as they holed out on the eighteenth, we hustled to the Club house to get a Looksee. Lo! and Behold! !!! this phenomenal golfer who had been burning up the course with such habitual precision was none other than our very own Captain Kay Borthwick Leslie, R.C.A.M.C.

The Late Brandur Jonsson Brandson

B.A., M.D., M.S., F.R.C.S. (Can.), F.A.C.S., M.D. Honoris Causa (Iceland), Grand Knight Commander of the Royal Icelandic Order of the Falcon, LL.D. Honoris Causa (Man.)

By P. H. T. Thorlakson, M.D.

A request to write a brief appreciation of the life and work of the late Dr. B. J. Brandson, Professor Emeritus of Surgery of the Medical Faculty of the University of Manitoba imposes a responsibility to present a concise but adequate appraisal of his character and achievements. His friends will agree that Dr. Brandson's contribution to the community he served so generously and with such distinction for nearly forty years is beyond calculation. His great qualities as a Canadian citizen, as a leader, as a surgeon and teacher have been given wide recognition. To write about him with moderation and restraint, as he would have wished, is difficult for anyone who knew him well.

Outside his professional work as a surgeon, he sought and found constant delight and companionship in his family, his friends, his books and his Church. He lived a full and useful life. Intellectually, he had a clear, logical mind, tinged by a wholesome sense of humor. He was intensely sympathetic in his human relationships. His friends and many patients will long remember his words of assurance and comfort, his gentle but firm touch, the slow wave of his hand, his friendly smile with the knowing twinkle in his eye and his characteristic chuckle. He was intensely human — a priceless quality in his profession.

In limited space, one can only enumerate his many excellent qualities. He possessed great strength of character, unusual capacity for service, good judgment, loyalty and constancy in friendship, generosity, and steadfastness. These attributes of his character are illustrated by his fidelity and constant devotion to the four institutions with which he was prominently affiliated, the Medical Faculty of the University of Manitoba, the Winnipeg General Hospital, the First Lutheran Church of Winnipeg, and the Icelandic Old Folks' Home, "Betel."

The Church

The Church had a large place in Dr. Brandson's life, and he gave to it the best that was in him. He was a member of the First Lutheran Church in Winnipeg almost from the day of his arrival in the city and was one of its most regular attendants. In periods of difficulty and transition he was a staunch supporter and bulwark of strength. At the time of his death he was Honorary President of the congregation. He has been repeatedly proclaimed the outstanding layman of the Icelandic Lutheran Church of North America.

"Betel"

"Betel" is an institution located at Gimli, the home of the earliest Icelandic pioneers of Manitoba. Here the homelike atmosphere of congeniality and genuine solicitude for their comfort have permitted many to spend their sunset days in peace and contentment. In a large measure the success of this enterprise was due to Dr. Brandson's personal effort

and good judgment. It stands today as a monument to his steadfastness of purpose and his generous spirit.

The Hospital

Dr. Brandson was on the surgical staff of the Winnipeg General Hospital from 1912 to 1934. During the last eight years of this period he was Surgeon-in-Chief. In 1934 he was appointed Consultant in Surgery to the hospital. The Hospital was his second home. During the latter half of his professional life he spent his entire mornings in the operating room, on ward rounds and in teaching. He was conservative but examined all new methods critically. His work as a surgeon was on a high plane of excellence. The enviable record of the Winnipeg General Hospital in the management of acute appendicitis is due in a noteworthy degree to his early insistence on the conservative non-surgical management of late appendicitis.

His last visit to the hospital was on Tuesday, June 16th, at 2 p.m. He came to have one of the internes give him an injection of Salyrgan. Though obviously tired and ill he nevertheless maintained his delightful humor and also his professional interest in the drug and its effectiveness. Two or three of the internes were privileged to discuss this matter with him on that last visit.

The University of Manitoba

Dr. Brandson was appointed to the surgical staff of the Medical Faculty of the University in 1910. His aptitude for teaching quickly became recognized and he was greatly admired and respected by all internes and nurses. In 1927 he became Professor of Surgery, a post which he held until his retirement from active teaching in 1934. During this period he did not publish his surgical lectures in the medical or surgical journals. This is regrettable in view of his rare gifts of clear expression. It is to be hoped that his paper on Hydatid Cysts will sometime be published. His knowledge and experience of this subject was unique. No surgeon in this hemisphere has seen or operated on as many patients with this condition, nor will this experience ever come again to another surgeon. At convocation on May 12th, 1944, the University of Manitoba befittingly conferred on Dr. Brandson the degree of Doctor of Laws honoris causa.

It is with regret that I bring to a close this brief review of the life of an exceptional man. It was a great privilege to have known him. I deeply appreciate the opportunity of recording something of his interests and his achievements. The memories evoked in so doing will remain with me, a happy and cherished possession.



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ampuls of 2 cc., boxes of 10, 25 and 100.

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Manitoba Medical Association

Canadian Medical Association, Manitoba Division

Annual Meeting, September 13, 14, 15

Fort Garry Hotel, Winnipeg

Provisional Program

(For detailed programme see September issue of Review)

Visiting Speakers:

Dr. H. McPhedran, Toronto.
 Dr. G. H. Stevens, Psychiatrist, Ontario Hospital,
 London.
 Dr. Albert Ross, Surgeon, Montreal.
 Dr. William Magner, Pathologist, St. Michael's
 Hospital, Toronto.
 Dr. T. C. Routley, General Secretary of the C.M.A.

Wednesday, September 13th

Morning:

Registration.
 Symposium on Penicillin.
 Dr. L. G. Bell and others.
 Psychiatry in General Practice.
 Dr. W. F. Stevenson.

Noon:

Luncheon.
 Guest Speaker to be announced.

Afternoon:

St. Boniface Hospital
 Clinical Meeting.
 Under direction of Drs. A. C. Abbott, A. Hollenberg
 and E. W. Stewart.

Evening:

Public Meeting in Grace Church.
 Dr. H. McPhedran, Toronto, and another speaker.

Thursday, September 14th

Morning:

Health Insurance.
 Dr. H. McPhedran, Toronto.
 Dr. M. R. MacCharles, Manitoba Medical Service.
 Dr. T. C. Routley, Toronto.
 Twenty minutes discussion after each speaker.
 Paralytic Bladder.
 Dr. D. Swartz.
 Acute Diverticulitis of the Sigmoid.
 Dr. A. Ross or Alternate.
 Diagnosis of Anaemias.
 Dr. William Magner, Toronto.

Noon:

Luncheon.
 Dr. C. H. A. Walton, Guest Speaker.

Afternoon:

Winnipeg General Hospital
 Clinical Meeting.
 under direction of Dr. Nicholson and others

Evening:

Annual General Meeting.

Friday, September 15th

Morning:

Chest.
 Dr. D. L. Scott.
 Thyrotoxicosis.
 Dr. H. McPhedran, Toronto.
 Management of Head Injuries.
 Dr. H. F. Cameron.
 Symposium on Prefrontal Lobotomy.
 Drs. K. Clark, H. Evans and S. Schultz, Brandon.
 Subject to be Announced.
 Dr. K. Cunningham or Alternate.
 Subject to be Announced.
 Dr. E. Johnson, Selkirk, or Alternate.

Noon:

Luncheon.
 Guest Speaker to be announced.

Afternoon:

Golf.
 Manitoba Medical Association,
 Annual Golf Tournament.

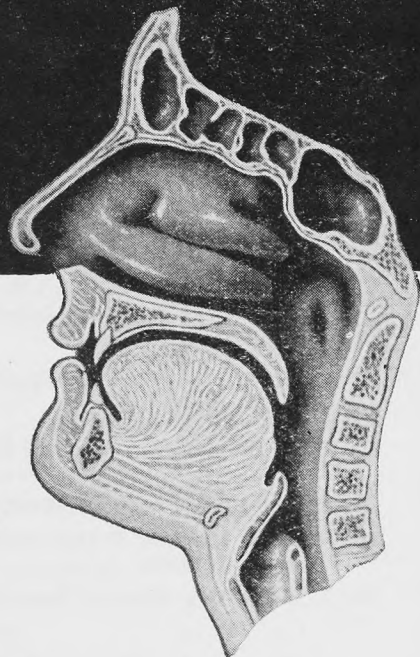
Ladies' Programme:

The Ladies' Committee will announce their
 programme in the September issue.

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MANUFACTURING CHEMISTS TO THE
MEDICAL PROFESSION SINCE 1858

Editorial

"Good wine needs no bush" and the record of our Annual Convention is sufficient advertisement. As usual, in the forthcoming one there will be Speakers well worth listening to and things well worth seeing. The program is still in its tentative stage but it is certain to be good that you may safely arrange for accommodation.

Apart from the business of learning new things there is the equally important matter of pleasure. Doctors are too prone to interpret literally the biblical admonition to work without ceasing. As a result they have developed the habit of dying young—just because they don't take to themselves the advice they give others. It is illuminating as well as pathetic to see the corpse of a middle aged doctor followed to the tomb by an assortment of ancient cripples who owe their longevity largely to the advice of the deceased. Holidays and relaxation are just as necessary for the physician as they are to his patients.
J.C.H.

Manitoba Medical Association Annual Meeting 1944

Now that the dog days are upon us our thoughts naturally turn from the care of the sick to sparkling sunshine dancing upon the blue waters of our wonderful lakes. The Annual Convention seems so far away that few consider the problems that are waiting for solution. We are submitting a number of questions that have been put forward as meriting consideration. Tentative answers follow but these replies may be revised in the light of further experience with Health Insurance. It is proposed to spend an afternoon and evening upon the subject of Health Insurance. Dr. H. McPhedran, President of the C.M.A. and Chairman of the Committee on Economics, will address us. He has spent a great deal of time upon this subject. His advice and counsel should prove invaluable in our study.

This brings us to consider two fundamental concepts, (1) our relations with the public, (2) our relationship with one another. Let us consider item No. 1 for a moment. Any proposed Health Insurance Act will not provide a standard of living for medical men markedly over the average. Much stress has been laid upon the fact that to make rural conditions more attractive to young medical men rural Manitoba would have to build modern units so that these young men could apply to their patients the scientific knowledge they had acquired at medical school. Very good. It would seem to follow that rural Manitoba should elevate their standard of life with the improved units for medical diagnosis, preventive and curative medicine. Low cost electric power to allow rural residents the many comforts his urban cousin now enjoys should be a "must" in the days to come. Perhaps politicians point with pride to the "pie in the sky" type of medicine that will come with the Federal Government paying the cost and medicine is free, that is, any person requiring the services of a medical man may have the same without money and without price. Such a statement appeals to a small class of people. However, there are in our province, rural and urban, a large number of people who know that worthwhile services have to be paid for in some manner. Doctors doing general practice (may their tribe increase) have a golden opportunity while serving these good people to point out that medicine as practised today is good, that the present patient-doctor relationship can be suitably adjusted

to fit in with any post-war social change. Some medical men may feel that they are too busy with curative medicine to spend any time upon social relationships, leave such tripe to the executive. What were they elected for? It is true the executive have more responsibility than the individual member but our relationship with the general public is so intimate and important that every member of this Association should consider himself a special envoy of the division, making known the good side of medicine today. Our opponents daily hammer upon certain aspects of medicine which, repeated sufficiently often without correction, the public accepts them as facts. We cannot allow continued distortion of medical facts to go unchallenged. Make a point of enlightening one layman daily upon some medical half-truth.

Our relationship one with another might be improved. Though professional jealousies have receded in the past quarter century there should be no serious division between general practitioner and specialist, between rural and urban practitioners, between a member of the university teaching staff and others. Osler was very sound upon professional relationships; one might say he acted as a catalyst in breaking down old prejudices of medical groups. If you have a grievance, bring it before your local society who will forward it to the Division for consideration. In the meantime, please make the following resolutions (1) to enter actively in bettering the relationship between the public and the profession, (2) to make a point of attending the Annual Meeting in September, (3) to have sufficient information of said problems to offer constructive suggestions for their solution.

Question No. 1

What is the difference between health insurance and state medicine?

Health Insurance

"The fundamental concept of any kind of insurance is very simple in principle, although in practical application its administrative details may be complex. The fundamental concept of insurance is "the co-operative association of a large number of persons, who agree to share amongst themselves the burdens resulting from the occurrence of a particular contingency—such as the occurrence of death, sickness, unemployment, etc.—by the payment of the necessary contributions into a common fund, from which benefits, related strictly to those contributions, are distributed in alleviation of the burdens against which the insurance is effected."

State Medicine

"State Medicine involves a concept wholly different from that of 'insurance', and must be carefully distinguished from the latter. 'State Medicine' means a system of medical administration by which the state provides medical services for the entire population, or a large part thereof, and under which all practitioners are employed, directed, and paid by the State on a salary basis or otherwise."

"The essence of the method is, therefore, **State compulsion and control**. It pre-supposes, as a primary requirement, that the doctor (and others who would be called upon to render services) would be employed by, and would be under the direction and control of, the State, which under such circumstances would evidently be in a position to dictate procedures and modes of payment, and to prescribe and enforce penalties."

Questions No. 2 and No. 3

No. 2—What machinery is proposed to promote better medical, hospital and nursing facilities in rural areas?

No. 3—What can we do to make practice in rural areas more attractive to young graduates?

It is obvious that the profession cannot answer these questions without the assistance of the provincial government and local municipalities. The executive would be delighted if experienced doctors of rural Manitoba sat down and wrote freely what they consider a reasonable and practical answer to questions No. 2 and No. 3. Please direct your replies to 510 Medical Arts Building, Winnipeg.

Question No. 4

Why should cash benefits not be included in health insurance?

We have always stood out against this because of the unpredictable drains on the fund; it would be more in keeping to have an independent fund for this purpose. As a profession we are favourable to cash benefits during illness being available from some source, but not as a part of the health insurance plan.

Question No. 5

Will unqualified practitioners be allowed to attend insured persons and receive remuneration?

There should be only one answer, "NO".

What can the profession do to stop them?

We have all been to Ottawa. We have made our representations and the cults have made theirs. Our legislators are beginning to ask questions such as: Why has no Canadian university recognized osteopathy or chiropractic? Why are they unwilling to take the basic training which doctors must take? It may be that our legislators will feel that these people should not be included in the scheme. We have suggested that parliament itself investigate their claims, their curriculum, their training. It is a problem that must be faced fairly and intelligently. Are these people safe? The authorities should find that out. In the future there should be legislation whereby all people who undertake to treat the sick would be scientifically trained.

D.C.A.

★ ★ ★

Letters to the Editor from Overseas

No. 18 Can. Gen. Hosp., R.C.A.M.C.,
C.A.O., May 20, 1944.

Winnipeg Medical Society,
Winnipeg, Man.

Gentlemen:

The gift parcel you so thoughtfully provided, arrived this morning. May I take this opportunity of thanking you one and all for this kindly gesture. May I say too, that the contents were extremely well selected from the standpoint of our wants—needs being hardly the word since the army really does an excellent job of feeding us. Proteins, however, are just a little deficient and an evening repast with some pressed meat such as you sent, and some cheese, is often welcome.

As you are all aware we are living over here in daily anticipation of momentous events. Not that people are tense or worried—there is an air of calm and sober confidence among civilians and troops

alike. Troops, planes, tanks, equipment and supplies of all sorts are to be seen moving here and there and everywhere throughout the land.

Many thanks for this friendly reminder—not that we need to be reminded—that you are all with us.

Sincerely,

Art Hay.

★

6 Cdn. C.S.S., Cdn. Army Overseas,

May 16th, 1944.

Winnipeg Medical Society.

Dear Friends:

A very nice parcel arrived from you today and I thank you very much. It seemed all the more timely as I had been hearing all the Winnipeg Medical news this afternoon from Col. Percy Bell, who paid me a visit.

It was very good to see him and hear about what is going on at home.

Your parcels are well selected and are just what we like to get.

We've had real summer weather here for some time but have run into a cool spell lately. There's nothing like this climate for mixing it up.

Thanks also for sending the Man. Med. Review, which I am glad to get. I also had a visit from Colonel Gordon Fahrni a week or so ago, which was very pleasant. Please give my best to all at home and also my thanks.

Sincerely,

T. E. Holland.

★

No. 9 Cdn. Gen. Hosp., Can. Army O/s.,

May 31st, 1944.

Winnipeg Medical Society,

Medical Arts Bldg.,

Winnipeg, Man.

Dear Confreres:

Was very pleased to receive a nice parcel from you today. These extras are always useful, and much appreciated.

I do hope that the need for overseas parcels will soon be over. This war has gone on long enough and we are all anxious to be home again.

Fraternally yours,

Herbert Meltzer.

★ ★ ★

Obituary

Dr. Thomas R. Corbett of Crystal City, Manitoba, died on June 22, aged 64. After graduating in 1907 from Manitoba Medical College, he began practice in Snowflake, but shortly after moved to Crystal City. He was coroner, a member of the town and school boards, and a past district deputy of the fourth Masonic district.

He is survived by a daughter and three sons, one of whom is Capt. Conner Corbett, R.C.A.M.C., now serving in a base hospital in Britain.

★ ★ ★

As houses well stored with provisions are likely to be full of mice, so the bodies of those that eat much are full of disease.—Diogenes.

Department of Health and Public Welfare

Comparisons Communicable Diseases—Manitoba

(Whites Only)

DISEASES	1944		1943		TOTALS	
	May 21 to June 17	Apr. 23 to May 20	May 23 to June 19	Apr. 25 to May 23	Jan. 1 to June 17, '44	Jan. 1 to June 19, '43
Anterior Poliomyelitis	2	1	4	1	3	12
Chickenpox	181	130	165	143	1380	988
Diphtheria	26	8	16	31	78	155
Diphtheria Carriers	3	1	4	3	16	17
Dysentery—Amoebic	—	—	4	—	—	6
Dysentery—Bacillary	1	—	—	3	1	6
Erysipelas	1	11	8	7	42	37
Encephalitis	—	1	—	2	3	4
Influenza	3	6	30	37	131	361
Measles	784	1414	446	494	4637	1930
Measles—German	19	35	61	54	223	143
Meningococcal Meningitis	3	1	2	1	14	21
Mumps	80	157	323	414	1373	2833
Ophthalmia Neonatorum	—	—	—	—	—	—
Pneumonia—Lobar	6	14	11	12	97	110
Puerperal Fever	—	1	—	—	4	1
Scarlet Fever	156	251	188	180	1614	809
Septic Sore Throat	2	2	7	1	19	27
Smallpox	—	—	—	—	—	—
Tetanus	—	1	—	—	1	—
Trachoma	—	—	—	—	—	2
Tuberculosis	82	57	40	62	294	285
Typhoid Fever	—	4	4	4	12	17
Typhoid Paratyphoid	—	—	—	—	—	—
Typhoid Carriers	—	—	—	—	—	1
Undulant Fever	1	—	—	1	2	3
Whooping Cough	36	36	151	294	162	1283
Gonorrhoea	132	144	140	156	813	887
Syphilis	52	44	57	49	296	267
Ootinomycosis	—	—	—	1	1	1
Meningococcal Meningitis Carriers	—	—	—	—	—	6

DISEASE	*738,000 Manitoba	*3,825,000 Ontario	*906,000 Saskatchewan	*2,972,300 Minnesota	*641,935 North Dakota
*Approximate Populations.					
Anterior Poliomyelitis	2	4	—	3	—
Chickenpox	181	1426	105	—	—
Diphtheria	26	8	2	6	4
Diphtheria Carriers	3	—	—	—	—
Dysentery—Amoebic	—	—	—	3	—
Bacillary	1	—	—	—	—
Encephalitis Epidemica	—	—	—	4	—
Erysipelas	1	8	—	—	1
German Measles	19	326	182	—	—
Influenza	3	31	—	—	—
Malaria	—	1	—	1	—
Measles	785	2535	281	1221	72
Meningococcal Meningitis	3	6	—	12	—
Mumps	80	665	46	—	1
Ophthalmia Neonatorum	—	—	—	—	—
Puerperal Fever	—	—	—	—	—
Scarlet Fever	156	633	43	366	58
Septic Sore Throat	2	2	—	—	—
Smallpox	—	—	—	—	1
Trachoma	—	—	—	—	4
Tuberculosis	82	209	32	—	14
Typhoid Fever	—	5	—	5	—
Typhoid Carriers	—	—	—	—	—
Typhoid Para-Typhoid	—	1	—	—	1
Undulant Fever	1	4	—	34	1
Whooping Cough	36	133	25	69	9
Gonorrhoea	132	763	—	—	16
Syphilis	52	490	—	—	21

DEATHS FROM COMMUNICABLE DISEASES

May, 1944

URBAN—Cancer 42, Influenza 1, Lethargic encephalitis 1, Measles 1, Pneumonia Lobar 10, Pneumonia (other forms) 9, Scarlet fever 1, Syphilis 6, Tuberculosis 15, Septicemia (nonpuerperal) 1, Gonococcus infection 1, Chickenpox 1. Other deaths under 1 year 19. Other deaths over 1 year 221. Stillbirths 16. Total 345.

RURAL—Cancer 31, Diphtheria 1, Influenza 6, Lethargic encephalitis 1, Measles 1, Pneumonia Lobar 8, Pneumonia (other forms) 15, Puerperal Septicaemia 1, Scarlet fever 1, Syphilis 2, Tuberculosis 13, Whooping cough 4, Dysentery 2. Other deaths under 1 year 30. Other deaths over 1 year 149. Stillbirths 16. Total 281.

INDIANS—Influenza 5, Pneumonia Lobar 1, Pneumonia (other forms) 4, Tuberculosis 9, Whooping Cough 2*. Other deaths under 1 year 5*. Other deaths over 1 year 8*. Stillbirths nil. Total 34*.

*Whites on Indian Reserves included.

Diphtheria with 26 cases, causing at least five deaths, is a major catastrophe in a disease which can be prevented! There were several outbreaks in the rural municipalities of Lawrence, Dauphin and Gilbert Plains. Diphtheria will never be defeated until toxoiding and re-toxoiding has been carried out thoroughly and repeatedly. What about clinics after the summer vacation?

Poliomyelitis and Encephalitis—So far there is no indication of any outbreak and as this is the season of the year that these diseases are usually more prevalent, the possibility of these diseases creeping up should be kept in mind.

ANTI-MEASLES SERUM

FOR MODIFICATION OR PREVENTION OF MEASLES

Human serum prepared from the blood of healthy adults so as to involve a pooling from a large number of persons may be used effectively either for modification or prevention of measles.

Modification is often preferable since it reduces to a minimum the illness and hazards associated with measles, but does not interfere with the acquiring of the active and lasting immunity which is conferred by an attack of the disease. On the other hand, complete prevention of an attack of measles is frequently desirable, and can be accomplished provided that an ample quantity of serum is administered within five days of exposure to the disease.

For use in modification or prevention of measles, pooled human serum is available from the Connaught Laboratories in a concentrated form. While the recommended dose of this pooled and concentrated human serum for purposes of prevention is ordinarily 10 cc., the most usual dose for purposes of modification is 5 cc. The serum is therefore supplied in 5-cc. vials.

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